for [creating and delivering]transmitting a high frequency probe signal to the structure; and receiver means for receiving [a modulated signal]from the structure a modulated signal [caused]produced by the modulation of said high frequency probe signal by said low frequency signal [modulating the high frequency signal in response]responsive to the presence of [a defect in or]ice on the structure[, the modulated signal indicating the presence of a defect in or ice on the structure].

2. (Amended) The apparatus of claim 1, further comprising moving means for moving [the]said low frequency signal relative to [the]said high frequency probe signal[and receiver means]; and trigger means for triggering the transmission of said high frequency probe signal after the transmission of said low frequency signal[to locate a defect in the structure].

3. (Amended) A method of detecting the presence and characteristics of [a defect in or]ice on a structure, comprising the steps of applying a low frequency signal to the [tested]structure; applying a high frequency probe signal to the [tested]structure; [modulating the high frequency signal by the low frequency signal in response to the presence of a defect in the structure;] and receiving from the structure a modulated signal [through a receiver means applied to the tested]produced by the modulation of said high frequency probe signal by said low frequency signal responsive to the presence of ice on the structure.

4. (Amended) The method of claim 3, further comprising the steps of [locating the defect in the structure by]triggering the transmission of said high frequency

probe signal [to occur]immediately after the transmission of said low frequency signal [is applied to the tested structure]; moving [a point of delivery of the]said low frequency signal about the [tested]structure; and monitoring the amplitude of [the]said modulated signal for an increase[d] in modulation.

5. (Amended) A method for detecting the presence and characteristics of [a defect in or]ice on a structure, comprising the steps of propagating an ultrasonic probe signal in the structure; propagating a low frequency vibration signal in the structure; detecting said ultrasonic probe signal; and analyzing said detected ultrasonic probe signal for interaction between said ultrasonic probe signal and said low frequency vibration signal caused by [a defect in or]ice on the structure[, said interaction being indicative of a defect in or ice on the structure].

6. (Amended) The method of claim 5, wherein said interaction between said ultrasonic probe signal and said low frequency vibration signal is produced by [a]the modulation of said ultrasonic probe signal by said low frequency vibration signal.

7. (Amended) The method of claim 6, wherein said modulation of said ultrasonic probe signal appears as sideband spectral components [with respect to]of a frequency of said ultrasonic probe signal.

8. (Amended) The method of claim 7, wherein said sideband spectral components are associated with the presence of [a defect in or]ice on the structure.

9. (Amended) The method of claim 6, wherein said low frequency vibration signal [exists in said structure because of]is produced by the operation or the environment of the structure.

22. (Amended) The apparatus of claim 1, wherein [the]said second transmitter means [for delivering a signal comprises]includes an ultrasonic transmitter and [the]said receiver means [for receiving a signal comprises]includes an ultrasonic receiver.

23. (Amended) The apparatus of claim 22, wherein [the]said structure [comprises]includes an aircraft wing, [and the]said ultrasonic transmitter being embedded in said wing and said ultrasonic receiver [are]being embedded in [the]said wing.

24. (Amended) The apparatus of claim 22, wherein [the]said ultrasonic transmitter includes piezoceramic material and said ultrasonic receiver [comprise]includes piezoceramic material.

25. (Amended) The method of claim 4, wherein the modulation of [the]said modulated signal appears as side-band components in the spectrum of [the]said high frequency probe signal, and [the]said step of monitoring the amplitude of [the]said modulated signal [comprises]includes monitoring the amplitude of [the]said side-band components in the spectrum of [the]said high frequency probe signal.

26. (Amended) The method of claim 3, wherein [the]said step of applying said low frequency signal [comprises]includes applying harmonic vibration to the structure.

27. (Amended) The method of claim 26, wherein [the]said step of applying said harmonic vibration is [applied]implemented by a shaker.

28. (Amended) The method of claim 3, wherein [the]said step of applying said low frequency signal [comprises]includes applying impact modulation to the structure.

29. (Amended) The method of claim 28, wherein [the]said step of applying said impact modulation is [applied with]implemented by an instrumented hammer.

30. (Amended) The method of claim 3, wherein [the]said step of applying said low frequency signal [comprises self-modulation]is implemented by structural vibration.

31. (Amended) The method of claim 30, wherein [the self-modulation]said structural vibration is applied by the environment.

32. (Amended) The method of claim 30 wherein [the self-modulation]said structural vibration is applied by working conditions.

Please add the following new claims 40-57:

40. (New) An apparatus for detecting the presence and characteristics of a defect in a structure, comprising first transmitter means for transmitting a low frequency signal to the structure; second transmitting means for transmitting a high frequency probe signal to the structure; trigger means for triggering the transmission of said high frequency probe signal after the transmission of said low frequency signal; moving means for moving said low frequency signal relative to said high frequency probe signal; and receiver means for receiving from the structure a modulated signal produced by the modulation of said high frequency probe signal by said low frequency signal responsive to the presence of a defect in the structure.

41. (New) The apparatus of Claim 40, wherein said second transmitter means includes an ultrasonic transmitter and said receiver means includes an ultrasonic receiver.

42. (New) The apparatus of Claim 41, wherein said structure includes an aircraft wing, said ultrasonic transmitter and said ultrasonic receiver being embedded in said wing.

43. (New) The apparatus of claim 41, wherein said ultrasonic transmitter includes piezoceramic material and said ultrasonic receiver includes piezoceramic material.

44. (New) A method of detecting the presence and characteristics of a defect in a structure, comprising the steps of applying a low frequency signal to the structure;

applying a high frequency probe signal to the structure; triggering the transmission of said high frequency probe signal immediately after the transmission of said low frequency signal; moving said low frequency signal about the structure; receiving from the structure a modulated signal produced by the modulation of said high frequency probe signal by said low frequency signal responsive to the presence of a defect in the structure; and monitoring the amplitude of said modulated signal for an increase in modulation.

45. (New) The method of claim 44, wherein the modulation of said modulated signal appears as side-band components in the spectrum of said high frequency probe signal, and said step of monitoring the amplitude of said modulated signal includes monitoring the amplitude of side-band components in a spectrum of said high frequency probe signal.

46. (New) The method of claim 45, wherein said step of applying said low frequency signal includes applying harmonic vibration to the structure.

47. (New) The method of claim 46, wherein said step of applying said harmonic vibration is implemented by a shaker.

48. (New) The method of claim 43, wherein said step of applying said low frequency signal includes applying impact modulation to the structure.

49. (New) The method of claim 48, wherein said step of applying said impact modulation is implemented by an instrumented hammer.

50. (New) The method of claim 43, wherein said step of applying said low frequency signal is implemented by structural vibration.

51. (New) The method of claim 50, wherein said structural vibration is applied by the environment.

52. (New) The method of claim 50, wherein said structural vibration is applied by working conditions.

53. (New) A method for detecting the presence and characteristics of a defect in a structure, comprising the steps of propagating an ultrasonic probe signal in the structure; propagating a low frequency vibration signal in the structure; detecting said ultrasonic probe signal; and analyzing said detected ultrasonic probe signal for interaction between said ultrasonic probe signal and said low frequency vibration signal caused by a defect in the structure.

54. (New) The method of claim 53, wherein said interaction between said ultrasonic probe signal and said low frequency vibration signal is produced by the modulation of said ultrasonic probe signal by said low frequency vibration signal.

55. (New) The method of claim 54, wherein said modulation of said ultrasonic

probe signal appears as sideband spectral components of a frequency of said ultrasonic probe signal.

56. (New) The method of claim 55, wherein said sideband spectral components are associated with the presence of a defect in the structure.

57. (New) The method of claim 56, wherein said low frequency vibration signal is produced by the operation or the environment of the structure.